

The acceleration of the energy transition

As the **world transitions to a new energy reality**, who will win and who will lose, and what should investors do about it?



Join Ken Geren, Portfolio Manager of O'Connor's Environmental Focus Strategy and Helima Croft, Managing Director, Head of Global Commodity Strategy and MENA Research, RBC Capital Markets, for a wide-ranging discussion on the trends that may change our world—and the massive opportunities they could create.



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Q&A

The International Energy Agency (IEA) published a report “Net Zero by 2050” that outlined the energy sector changes needed to achieve net-zero greenhouse gas emissions by 2050. What are the key takeaways from this report?

Helima: To me, the biggest takeaway, especially for OPEC, is that it calls for essentially no new oil and gas drilling after 2021.

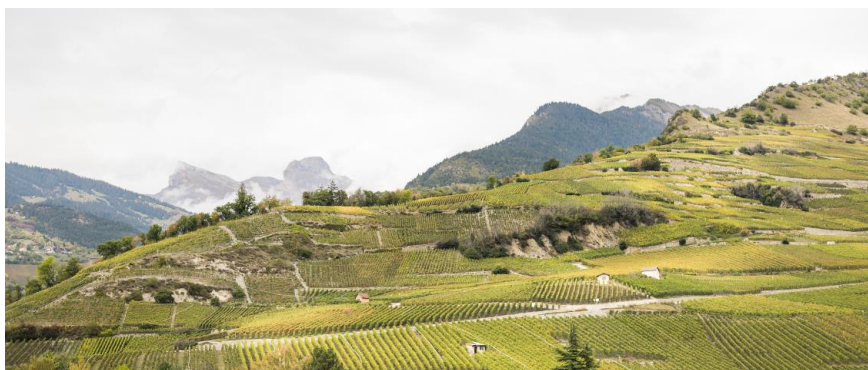
When you think about revenue for these OPEC producers, Saudi Arabia, Nigeria, the United Arab Emirates, for example, they are forecasting that the market share of OPEC will grow from about 37% to 52%, although of a shrinking pie. They will see revenue fall by a catastrophic 75% in this scenario.

But Ken, what is your perspective as an investor on the IEA assumptions?

Ken: It's the most aggressive forecast out there. We've estimated it at about an additional trillion dollars of capex per annum to achieve climate goals and get close to the 1.5 degree scenario of net-zero by 2050. The IEA's new capital spending in the energy sector goes over USD 4 trillion by 2030.

Also, it's interesting to look at the net-zero pledges, which account for about 70% of emissions today. There are very few pathways to get there. We are seeing more high level commitments without policy in place to execute.

Now, pivoting back to the Middle East. I think hydrogen is quite a solution there because of the tremendous solar profile of some of the countries in Middle East. I assume that countries such as Saudi Arabia and the Emirates are using cash flow from the oil to really develop renewable energies and their economies.



Do you anticipate OPEC countries taking different approaches to meeting IEA goals?

Helima: I think the Gulf States have a strategy to get through the energy transition. They are going to keep investing in conventional upstream but will tell you that not only are they the cheapest producers per barrel, but they are also the greenest and are well-positioned for other important transition fuels like hydrogen.

We always think of the United Arab Emirates as best in class. They have one of the lower fiscal break-evens, and for years have been taking the proceeds from oil sales and investing in renewables and hydrogen.

We think there will be a range of outcomes with oil producers. Nigeria (population 200 million) has huge issues in terms of ethnic and sectarian violence and poor governance. I think Algeria and Venezuela will also struggle.

What challenges will the US and the Biden administration face in meeting their aggressive goals?

Helima: One of the big issues is how much can you achieve through Congress, especially with razor thin majorities in the House and Senate. I think there are some areas where there will be bipartisan cooperation, including potential tax breaks for wind and solar and on the development of civilian nuclear technologies. But changes to the tax code may be difficult. There may be legal challenges to some regulatory changes.

The Biden administration's goal is net-zero by 2050, so they are very focused on using the permitting process to drive change, which may challenge oil pipelines.

Another issue with the transition is sourcing the minerals that will fuel it and whether securing resources from supplier countries will affect our foreign policy relationships.

Ken: Securing supply chains for these minerals is not an easy task. We're seeing a great deal of inflation in what we consider the 'green metals,' such as copper, platinum, lithium potentially, and others that are essential to the energy transition.

As investors, for us it's about endorsing the supply chain and giving these companies the capital and the signals to grow their production of critical minerals commensurate with the renewable growth that we see and expect in the next two decades. But many of these supply chains, which are cyclical industries, have had a lack of investment. I think the cost of not doing it, as we're starting to see, will be inflation in renewable energy prices, which will ultimately be paid through taxes or higher energy prices. In Western countries, progressive taxes are unpopular, but in the developing world they can be the difference between life and death.



What are the risks for developing economies if inflation continues to spiral?

Helima: Food price inflation is something that triggers tremendous social discontent in some developing nations, and something similar could occur in response to rising energy prices. Some question whether these nations can move to 100% renewables. They're saying they want to have gas as a significant component of their energy mix, so it will be an interesting debate to follow.

How much has changed about energy demand and preferences over the last several years, and where do you see the most promise for a net-zero future?

Ken: Energy demand continues to grow with population and GDP growth. However, what will change is the energy supply mix. We believe meeting decarbonization goals will be a multi-decade process.

In our view, green energy and decarbonization will be under-supplied for the next 10-plus years because these require long lead-time investments. I think investing in the energy market today means taking a longer duration view and recognizing opportunities as different sectors are impacted differently. We cover a universe that incorporates many sectors that are affected in varied ways and having the flexibility to invest in the entire supply chain is the best way to approach it in our opinion.

How serious is China about addressing climate change, and how can the US and China collaborate on climate when other issues seem to be taking a different track?

Helima: I think the Chinese are serious about climate change, particularly issues like air pollution, as they are national security issues.

Ken: What we're seeing on the ground supports this view—the de-emphasis of producing aluminum steel with the coal that they have in abundance, and some of the investments they are making in their renewable infrastructure. We do think China is committed to this and we're seeing action as a result.



Which innovations in the renewable energy sphere are you particularly excited about?

Ken: For me, the biggest challenge is solving the intermittency issue. Solar and wind are great producers of energy; however, they can be intermittent.

We think that the intermittency issues are solved with batteries, but from the viewpoint of assessing what can be scaled, we're always on the lookout for better battery technologies. We also think hydrogen is a solution for intermittency as is nuclear energy. The investments we're seeing going to the hydrogen ecosystem addresses the issue because it's a matter of scaling it up to drive the cost down. I think we're on track to do that.

I think things which are front and center on everybody's radar, such as batteries, hydrogen, and nuclear technology are key to accelerating decarbonization.



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